

Maintenance Request:  
Definition of 'channel'  
and  
'link segment' and 'fiber optic cabling  
(channel)' equivalence text for optical  
clauses

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jonathan king

# Backstory

- A formal maintenance request to add generic meaning to the definition of 'channel' in Clause 1 was sent on 15<sup>th</sup> October 2015, in order to address several comments on use of the word 'channel' against 802.3by, Clause 112, draft 2.1
- My original proposal was to change the current definition for channel to:
  - 1.4.127 channel:**
    - 1) A band of frequencies dedicated to a certain service transmitted on the broadband medium. (See IEEE Std 802.3, Clause 11.)
    - 2) As used in IEEE 802.3, a general term for the physical link that conveys data between transmitter and receiver. For example, for fiber optic links, it includes the fiber cable, connectors, and splices and, for EPON links, optional power splitter/combiner.
- Subsequently, 802.3by agreed to change the definition of 'channel' (to include the generic meaning) to this (which I'm happy with):
  - 1.4.134 channel:** In 10BROAD36, a band of frequencies dedicated to a certain service transmitted on the broadband medium. **Otherwise, a defined path along which data in the form of an electrical or optical signal passes.** (For 10BROAD36, see IEEE Std 802.3, **Clause 11**).
- During follow up work to check that the new definition for 'channel' covered all use cases in the 802.3 base document, I noticed that two optical clauses have missed part or all of the text which equates 'fiber optic cabling (channel)' with 'link segment', which appears in all other optical clauses. I'd like to add a fix for that to this maintenance request.

# Purpose of this request, and proposed changes

- Ratify the change to definition of the term 1.4.134 channel (red text introduced by 802.3by during resolution of comments against draft 2.2)
  - **1.4.134 channel:** In 10BROAD36, a band of frequencies dedicated to a certain service transmitted on the broadband medium. **Otherwise, a defined path along which data in the form of an electrical or optical signal passes.** (For 10BROAD36, see IEEE Std 802.3, **Clause 11**).
  - Confirm that the change doesn't break anything; 'channel' is used generically in ~40 clauses in base document (see slide 4); no further changes required.
- Make the 'fiber optic cabling model' sections consistent for the optical clauses in the base document.
  - Clauses 38, 52, 53, 58, 59, 68, 75, 87, 88, 89 have the text "The fiber optic cabling model (channel) defined here is the same as a simplex fiber optic link segment. The term channel is used here for consistency with generic cabling standards."
  - Clause 86 needs the addition of "The fiber optic cabling model (channel) defined here is the same as a simplex fiber optic link segment. The term channel is used here for consistency with generic cabling standards." at the end of 86.10.
  - Clause 95 needs the addition of "The fiber optic cabling model (channel) defined here is the same as a simplex fiber optic link segment." inserted as the penultimate sentence of 95.10.

# Back up

## Clauses using term 'channel':

Generic use: 1; 4; 7; 8; 9; 10; 11; 12; 14; 15; 19; 23; 24; 25; 27; 30; 32; 33; 36; 38; 40; 40A; 41; 45; 47; 48; 48B; 49; 50; 52; 53; 55; 55B; 58; 59; 60; 61; 62; 62C; 63; 64; 65; 68; 69A; 69B; 70; 72; 74; 75; 75A; 75B; 77; 82; 83A; 85; 85A; 86; 86A; 87; 88; 89; 92; 92A; 93; 93A; 93B; 93C; 94; 95;

## Other uses of the term 'channel':

Channel as band of frequencies (clause 11) – already included in definitions

Fibre Channel – already included in definitions

Channel insertion loss – already included in definitions

Duplex channel – already included in definitions

(In-channel signaling) – already included in the definition for 'In-band signaling'

Channel  $L_0$  to  $L_3$  (with associated wavelength band, Clause 53) – would be covered by the generic use definition

Operation channel (Clause 63) – would be covered by the generic use definition

Control channel (Clause 72, 94) – would be covered by the generic use definition

I couldn't see anything that would not be covered by the augmented definition for channel.